LOWER LEY CREEK SUBSITE
PRP NEXUS REPORT
General Super Plating Company

October 14, 2014

Compiled by:

PALMERTON GROUP
A Division of GZA GeoEnvironmental, Inc.

Executive Summary:

This summary report documents the waste types and waste-in contributions attributable to General Super Plating Co., Inc. (GSP) to the Lower Ley Creek Subsite, and provides a brief summary of site history and facts pertaining to its liability at the Lower Ley Creek Subsite. The report is a summary of data/evidence collected and produced by others. Data sources for the information presented in this document are summarized in the reference section, and select information supporting the conclusions reached in this report is included in Appendix A.

Site History:

General Super Plating Co., Inc.'s (GSP) current facility is located at 5762 Celi Drive, East Syracuse, NY. GSP also had four previous locations within the Ley Creek watershed. Previous locations included: 6606 and 6608 Joy Road, East Syracuse, NY; 5781 Bridge Street, East Syracuse, NY; and Oliva Drive, East Syracuse, NY. Facility information for the former Joy Street locations is limited. The facility located on Oliva Drive, address unknown, was operated as a small adhesive pilot plant for a brief period of time in 1986 and is not discussed in this report.

GSP began operations in 1963 at 5781 Bridge Street, East Syracuse NY. Operations at the facility included metal finishing on plastic and metal substrates. The plating operations consisted of surface preparation and activation of a plastic surface, electroless plating, or the autocatalytic deposition of a layer of metal, and electroplating steps. From 1963 to 1983, GSP operated a metals line on an intermittent basis which performed miscellaneous plating processes with electrode deposition on a metal substrate. A zinc barrel line was operated from 1965 to 1983 which consisted of the application of cleaners, activators and plating solutions to "bulk zinc plate" various unspecified metal parts. Additionally, GSP operated a zinc rack line, comprised of the application of cleaners, activators and plating solutions to "rack plate zinc" on various unspecified metal parts. The South Branch of Ley Creek is located approximately 1,000 feet northwest of the Bridge Street Site.

After a fire at the Bridge Street facility in 1979, GSP opened a facility at its current location at 5762 Celi Drive and phased out the Bridge Street facility from 1980-1983. According to GSP's CERCLA Section 104(e) response, all records from the Bridge Street facility were destroyed during the fire (TAMS, 2001 pg. 5).

Operations at the Celi Drive facility involve metal plating on both plastics and metal substrates. The plating processes are described as follows: metal plating of plastics which consists of surface preparation and activation by means of etching the surface of the plastic substrate; electroless plating which involves the coating and autocatalytic deposition of a layer of metal on the plastic; and electroplating which is the electrolytic deposition of the final metallic coating on the initial layer of metal applied

(TAMS, 2001 pg. 6). From 1983 to 1988, the Celi Drive Facility operated a zinc barrel plating line which involved the application of cleaners, activators, and plating solutions to metal parts. Also, from 1983 to 1993 a "shielding line" was operated intermittently which involved the surface preparation and activation via etching of a plastic surface, and electroless plating. The South Branch of Ley Creek is located approximately 1,700 feet northwest of the Celi Drive Site.

GSP operated a facility at the 6606 Joy Road from approximately 1987 to 1992. Operations at the facility included a shielding line with a process similar to the Celi Drive facility. In addition, from 1989 to 1990, the facility operated a nickel plating line, which consists of the application of cleaners, activators, and plating solutions during which a layer of nickel is deposited on metallic substrates (TAMS, 2001 pg. 6).

GSP also operated an adhesives application facility known as Joy Road Adhesive located at 6608 Joy Road, East Syracuse, NY. The facility operated from 1986 to 1990 and included an adhesive line which involved the spray application of adhesive on metal components (TAMS, 2001 pg. 6). The North Branch of Ley Creek is located approximately 3,000 feet northwest of both Joy Road facilities.

Hazardous Waste Generation:

GSP is identified as a large quantity generator (LQG) of hazardous waste by the USEPA (NYD982721656). Approximate quantities and types of wastes generated at the Celi Drive, Joy Road, and Joy Road Adhesives facilities were provided by GSP in its CERCLA Section 104(e) response. Very little information on waste generation and disposal was provided for the Bridge Street facility. Wastes generated included: plating sludge (81 tons/year), spent gold resin (.5 tons/year), spent degreaser (10 tons/year), spent gold bath (<.05 tons/year) and spent bath (24 tons/year) (TAMS, 2001 pg. 9).

Processes related to the electroplating of plastic and metal at Celi Drive have generated F006 waste, generally defined as "wastewater treatment sludge from electroplating operations" (USEPA Hazardous Waste Codes). Various plating processes have generated F001 and F002 wastes, including, but not limited to: tetrachloroethylene, trichloroethylene, and 1,1,1-trichloroethane. Stainless steel plating process generated F007 waste, or "spent cyanide plating bath solutions from electroplating operations." F003 and F005 wastes generated at the facility include non-halogenated solvents such as xylene, acetone, toluene, benzene, and methyl ethyl ketone (TAMS, 2001 pg. 10).

GSP utilized a storage area/warehouse on the opposite side of Celi Drive from 1986 to 1994 to store F006 waste and other miscellaneous waste in 55 gallon drums and cubic yard sacks. The building is no longer being used for waste storage. Miscellaneous wastes were also stored near an area indicated as "W.T. Chem Storage". It is assumed that the chemicals used in the waste treatment system are also stored in this area (TAMS, 2001 pg. 11).

Limited information was provided concerning the transport and disposal locations for wastes generated by operations at the Celi Drive Facility.

Wastewater and Sewer Discharges:

A 1969 Ley Creek Drainage Discharge Report indicated that the total wastewater discharged from GSP's Bridge Street plant was approximately 200,000 gallons per day. The major volume of process waste water resulted from rinse tank overflow, but spills, leaks, and general clean-ups contributed to the total flow. Total contaminant discharge from GSP was compared to the influent loading on the Ley Creek Sewage Treatment Plant. Based on the mean data, GSP contributes approximately 36 percent of the chromium and 13.5 percent of the copper to the Ley Creek Sewage Treatment Plant (Weston, 1969 pg. A-93). Cyanide, total chromium, copper and nickel concentrations measured in GSP's effluent in 1969 were in sufficient magnitude to be toxic to biological treatment (Weston, 1969 pg. A-94).

A 1975 Industrial Waste Survey prepared by Onondaga County reported that GSP discharged 66% of the total industry load for cadmium to the Ley Creek STP, 83% of the total load for copper, 85% of the total load for nickel, and 77% of the total load for cyanide. Studies conducted in 1976 showed elevated chromium (total and hexavalent), nickel, zinc, and oil & grease in discharges (187,000 gallons per day) from GSP to the Ley Creek STP, while it was also reported that GSP exceeded pretreatment limits for copper, chromium (total and hexavalent), nickel, zinc and cyanide.

A 1980 Industrial Chemical Survey completed by GSP indicates that the company's Bridge Street plant discharged wastewater to the Onondaga County sewer system and maintained a SPDES/NPDES permit. No additional information on GSP's permit was provided. However, discharge data was provided for wastewaters discharged by GSP to two separate sewer lines. This data reported the following hazardous substances in GSP's wastewater: cadmium (4.4/.09 mg/L), chromium (4.7/146 mg/L), hexavalent chromium (1.08/129 mg/L), copper (5.33/17.2 mg/L), cyanide (18.2/.07 mg/L), nickel (3.3/27.3 mg/L), and zinc (22/.38 mg/L).

The Celi Drive facility has historically discharged sanitary wastewater and electroplating/electroless plating wastewater into the OCDDS system for treatment at the Metropolitan Syracuse Wastewater Treatment Plant (METRO). Sewer #1 is the discharge point for sanitary wastewater. Sewer #2 is described in the permit (as of 2000) as the discharge point for pretreated wastewater from plating on plastics automated line, metals #1 line, metals #2 line, metals #3 line, zinc phosphating line, plating on zinc die casting pilot line, and specialty line. According to GSP, "pretreatment consists of chrome reduction and conventional hydroxide precipitation with occasional (as needed) cyanide destruction area (TAMS, 2001 pg. 29).

Average daily flow rates and analytical data were provided for Sewers # 1 and # 2 for November 1992, April 1995, and June 1996. During November 1992, discharges to Sewer #2 averaged 56,496 gallons per day and in April 1995 discharges to Sewer #2 averages 90,307 gallons per day (TAMS, 2001 pg. 29).

Site Investigations:

A remedial investigation was conducted as a result of a May 10, 2005 release of metals-containing wastewater from a failed liner in an electroplating line equalization tank. This release impacted soil beneath the Celi Drive Site building and on the east side of the Site building. The release flowed down-gradient through a manmade storm water drainage trench offsite towards Bridge Street and Interstate

690 and ultimately the South Branch of Ley Creek. The cause of the metals-containing wastewater resulted from a failed liner in an electroplating line equalization tank located on the east wall of the main 5762 Celi Drive building. GSP installed a temporary earthen berm in the storm water drainage trench and removed free-standing metals-containing wastewater.

In 2005, Environmental Resources Management (ERM) collected soil, sediment, and water samples from the main Celi Drive building, the on-Site storm water drainage trench, the Bridge Street drainage trench, and the sub-slab portion of the main building. ERM found elevated levels of chromium, copper, nickel, and zinc in the soil and groundwater near the source area. ERM also found surface water, sediment, and soil impacted with these same compounds of concern offsite near the Bridge Street drainage trench. Total chromium was found as high as 3,830 parts per million (ppm), copper was found as high as 87,400 ppm, and nickel as high as 10,700 ppm.

Four (4) main areas of concern (AOCs) were identified: (AOC 1) soil beneath the GSP building, (AOC 2) soil located in the drainage ditch immediately behind the GSP building, (AOC 3) buried culvert pipe, and (AOC 4) surface water, sediment, and soil in the Bridge Street drainage trench. As of a result of these identified AOCs, the Celi Drive Site (C734108) was added to the Brownfield Cleanup program in October 2013.

Known Discharges and Violations:

As discussed above, a failed liner in the equalization tank resulted in the release of metals-containing wastewater which impacted soil beneath the Site building and on the east side of the Site building. The release also flowed through a manmade storm water drainage trench offsite towards Bridge Street and Interstate 690 and ultimately the South Branch of Ley Creek. The Site was added to the Brownfield Cleanup Program in October 2013, and remedial activities to address soil and groundwater contamination at the site are ongoing.

Cyanide, total chromium, copper and nickel concentrations measured in GSP's effluent in 1969 were in sufficient magnitude to be toxic to biological treatment at the Ley Creek STP (Weston, 1969 pg. A-94). A 1975 Industrial Waste Survey prepared by Onondaga County reported that GSP discharged 66% of the total industry load for cadmium to the Ley Creek STP, 83% of the total load for copper, 85% of the total load for nickel, and 77% of the total load for cyanide. Studies conducted in 1976 showed elevated chromium (total and hexavalent), nickel, zinc, and oil & grease in discharges (187,000 gpd) from GSP to the Ley Creek STP, while it was also reported that GSP exceeded pretreatment limits for copper, chromium (total and hexavalent), nickel, zinc and cyanide.

On May 3, 1988, GSP admitted to violating the Onondaga County Rules and Regulations Relating to the use of the Public Sewer System by discharging industrial waste to the county sewer system between July 1987 and January 1988. At that time, a self-monitoring program was instituted as outlined in the stipulation (TAMS, 2001 pg. 30).

Between June 22, 1988 and March 8, 1994, GSP had 59 exceedances of its OCDDS permit limits for which they received Notices of Violation (NOVs) and Notices of Non-Compliance (NONs). GSP noted exceedances of effluent limitations for nickel, copper, chromium, lead, total metals and pH. In July 1995, GSP entered into an agreement with the Onondaga County Department of Drainage and Sanitation in response to alleged violations of the County's Rules and Regulations. The agreement outlined several actions that GSP would take at its Celi Drive and Joy Road Facilities including the drafting and implementation of a gravity settler operating plan, "Operation and Maintenance Manual", "Slug Control Discharge Plan", and a "Pollution Prevention Plan", and the installation of a "flow proportioning/flow monitoring system." (TAMS, 2001 pg. 30).

In May 1988, GSP suspected that chromium solution was being released to the environment at the Joy Road Facility through a defective floor lining in the containment area inside the building. Groundwater wells were installed inside the building to pump groundwater to the then existing on-site treatment system. In September 1988, a more extensive groundwater recovery system was installed consisting of two horizontal sections of 4 inch PVC drain pipe surrounded by pea gravel at a depth of 4-6 feet. The drains were connected to a 12 foot sump that pumped the groundwater back to the treatment plant (TAMS, 2001 pg. 34).

Ley Creek and Beartrap Creek:

Sediment samples in the North Branch of Ley Creek were collected by NYSDEC in 1996 in the vicinity of the Joy Road Facilities. Concentrations of chromium at sample locations L-14, L-15, and L-16 ranged from 6.5 mg/kg to 7.9 mg/kg, which is less than the NYSDEC sediment screening criteria for chromium of 26 mg/kg (NYSDEC, 1997 pg. 14).

Sampling efforts were not conducted on the South Branch of Ley Creek in the vicinity of GSP's Celi Drive Facility.

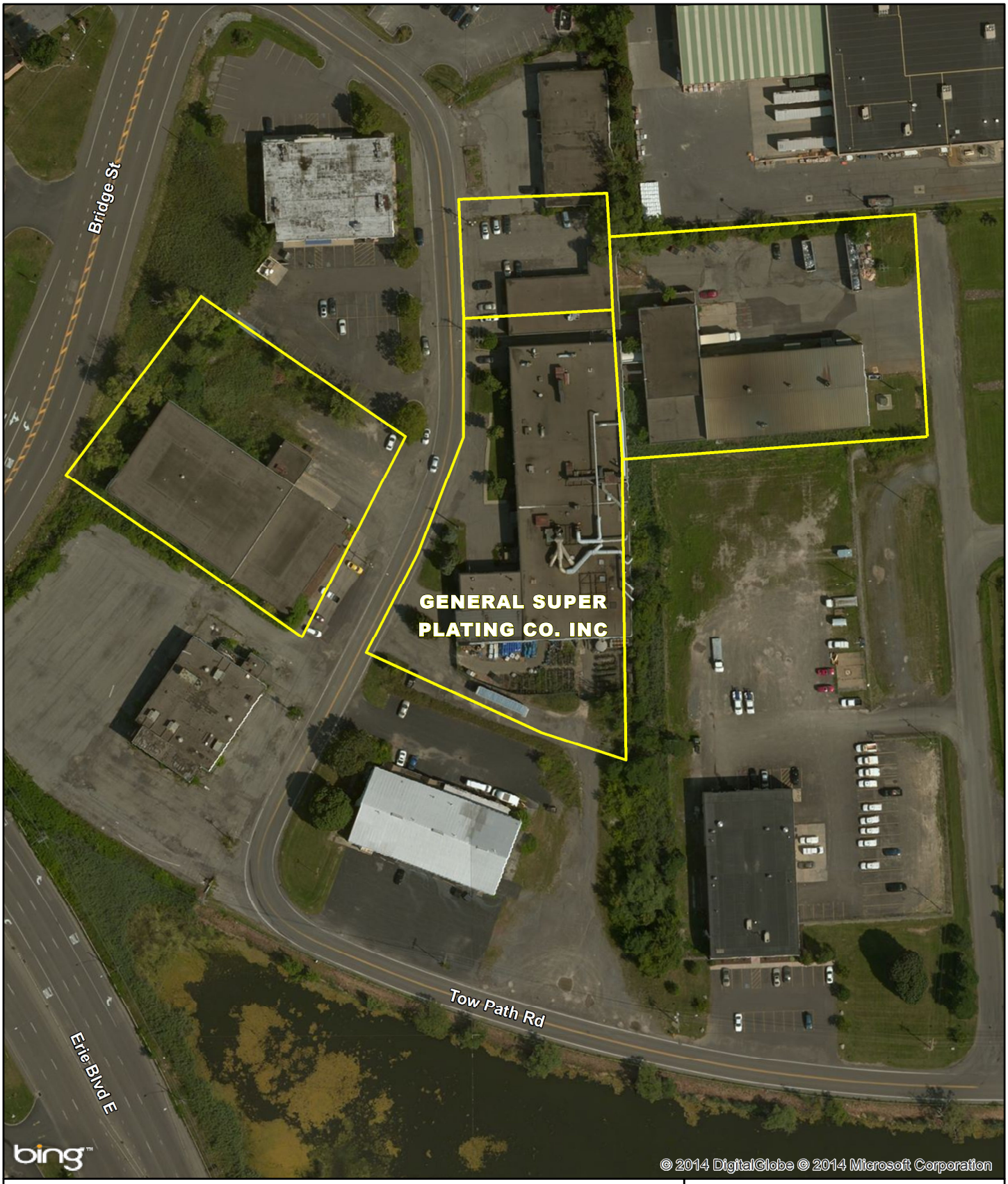
Conclusions:

Hazardous substances for which there have been documented releases from General Super Plating Co., Inc. into the Ley Creek Watershed include, but are not limited to: metals (nickel, copper, chromium, lead and cyanide) and solvents (tetrachloroethylene, trichloroethylene, 1,1,1-trichloroethane, xylene, acetone, toluene, benzene, and methyl ethyl ketone). Based on available evidence, GSP's nexus to Lower Ley Creek includes: discharges, spills, and releases of the aforementioned hazardous substances from their various facilities into soil, sediment, groundwater and discharges at levels exceeding pretreatment limits and toxic to biological treatment to the Onondaga County Sanitary Sewer System, including the former Ley Creek STP.

Based on the prior reports and studies, General Super Plating Co.,Inc. should be given notice by the USEPA of its potential liability at the Lower Ley Creek Subsite and included in any future negotiations between the agency and PRPs.

References:

Information presented in this report has been summarized from the General Super Plating Co., Inc. (Sites 286-289) Site Summary Report (SSR) prepared by TAMS in 2001; Environmental Investigation Reports by ERM; facility information publicly available and select reports and other records obtained from USEPA, Onondaga County and NYSDEC. The information contained in the SSR Report was originally obtained from the CERCLA Section 104(e) responses of General Super Plating Co., Inc., as well as supplemental information from the NYSDEC.



Legend:

Site Boundary

River or Stream

N

0 60 120 240

FEET

1:1,440 | 1 INCH = 120 FEET

Tax Parcels from Onondaga County Water Authority, 2011

Onondaga County, New York

Project Number: 31.0180000.00

GENERAL SUPER PLATING CO. INC

SITE MAP

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FIGURE
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